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EXAMINER	
HALIYUR, VENKATESH N	

ART UNIT	PAPER NUMBER
2419	

NOTIFICATION DATE	DELIVERY MODE
07/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/084,019	TIEDEMANN ET AL.	
	Examiner	Art Unit	
	VENKATESH HALIYUR	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30 (claims 1-7 & 25-27 canceled)* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-13,15-18,20-21,23,28-29* is/are rejected.

7)☒ Claim(s) *14,19,22,24,30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/25/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 05/15/2009 has been considered but is ineffective to overcome the references. Rejection follows.

2. Claims 1-30 are pending in the application. Claims 1-7 and 25-27 are canceled. Claims 28-30 are new.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 12-13, 28-29 are rejected under 35 U.S.C. 103(a) as being anticipated by DeMartin et al [US Pat: 6,421,527] in view of Ling [US Pat: 5,216,692].

Regarding claims 12, 28, DeMartin et al in the invention of "System for Dynamic Adaptation of Data/Channel Coding in Wireless Communications" disclosed in a wireless communication system **(Figs 1-3, col 1, lines 45-50)** for

processing voice communications and packet-switched communications, a base station **(BS of Fig 3, col 2, lines 8-28)** comprising: receive circuitry **(Figs 2-3)** operative to receive signals on a reverse link **(up link, col 3, lines 19-47, Figs 3)**, including a quality message with a parity check **(differential coding for channel measurement with 1 bit parity check for different channel grade, col 6, lines 1-43, Fig 1)**, and differential indicators **(channel grade indicators),** the quality message periodically providing a quality metric of a forward link **(down link C/I measurements, col 3, lines 66-67,col 4, lines 1-8)**, wherein the differential indicators track the quality metric between successive quality messages **(moving average of the quality indicator C/I of the channel, col 4, lines 48-55)**; a memory storage unit operative to store a quality message received on the reverse link **(item 63 of Fig 4, col 4, lines 56-65);** and a differential analyzer **(item 39 of Fig 2, channel analysis with delta modulation)** to update the quality message stored in the memory storage unit in response to the differential indicators and the parity check **(col 5, lines 64-67,col 6, lines 1-44).** DeMartin et al disclosed receive circuitry **(Fig 3)** operative to receive signals on a reverse link **(up-link)**, including a quality message with a parity check **(measurement bit)** with channel grade quality indicators, but fails to positively disclose that the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages. However, Ling in the invention of “A method and apparatus for adjusting a power control threshold in a communication system" disclosed a method for receiving the

quality message periodically providing a quality metric of a forward link, wherein the differential indicators **(indicator is set based on difference signal)** track the quality metric between successive quality messages received at the receiver **(Receiver circuitry, item 100 of Fig 1, col 5, lines 35-67, col 6, lines 1-21, col 7, lines 26-56, Figs 1-2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving quality message periodically providing a quality metric of a forward link, wherein the indicator is set based on difference signal to track the quality metric between successive quality messages received as taught by Ling in the system of DeMartin et al to receive the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages. One is motivated as such in order to provide differential indicators to in the quality message to track the quality metric of a forward link to estimate channel condition to accurately maintain signal power levels to minimize noise in wireless communication systems.

Regarding claim 13, DeMartin et al in the disclosed a wireless communication system comprising processing unit **(Figs 1-4, col 1, lines 45-50),** operative for executing computer-readable instructions; and a memory storage unit adapted to store plurality of computer-readable instructions for: generating quality messages **(col 4, lines 32-48)** and differential indicators **(indicator is set based on difference signal)** at first frequency **(downlink-frequency, col 5, lines 53-67)**, the quality messages providing information on the quality of a

communication link **(col 1, lines 45-50)**, wherein the differential indicators track a quality metric between successive quality messages **(C/I quality indicator of the channel, col 4, lines 48-55)**; and generating a parity check **(measurement bit)** for each of the quality messages and transmitting the quality messages and differential indicators **(differential coding for channel measurement with 1 bit parity check for different channel grade, col 5, lines 64-67, col 6, lines 1-43, Fig 1).** DeMartin et al disclosed generating quality message with a parity check **(measurement bit)** with channel grade quality indicators, but fails to positively disclose wherein the differential indicators track the quality metric between successive quality messages. However, Ling disclosed a method for receiving the quality message periodically providing a quality metric of a forward link, wherein the differential indicators **(indicator is set based on difference signal)** track the quality metric between successive quality messages received at the receiver **(Receiver circuitry, item 100 of Fig 1, col 5, lines 35-67, col 6, lines 1-21, col 7, lines 26-56, Figs 1-2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving quality message periodically providing a quality metric of a forward link, wherein the indicator is set based on difference signal to track the quality metric between successive quality messages received as taught by Ling in the system of DeMartin et al to include the quality message with differential indicators to track the quality metric between successive quality messages. One is motivated as such in order to provide differential indicators to in the quality message to track the

quality metric of a forward link to estimate channel condition to accurately maintain signal power levels to minimize noise in wireless communication systems.

Regarding claim 29, DeMartin et al disclosed the feature of dynamically adjusting the first window based on operation of the system **(moving average method, col 2, lines 19-32, col 4, lines 48-55)**.

5. Claims 8-11, 15-17, 20-21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennakeshu et al [US Pat: 5,905,742] and Shibutani [US Pub: 2003/0002518] further in view of Ling [US Pat: 5,216,692].

Regarding claims 8,11, Chennakeshu et al in the invention of "Method and Apparatus for Channel Symbol Decoding" disclosed in a wireless communication system **(Figs 2-4)** , a method comprising: estimating a channel condition over a first time window **(channel quality measured over a holding window, col 9, lines 18-29, Fig 4)**; comparing the estimated channel condition to a first threshold value **(col 9, lines 30-39)**; Chennakeshu et al disclosed transmitting differential indicators **(channel quality indicator, col 5, lines 1-15)** based on the comparison **(col 8, lines 14-67,1-17)** and transmitting differential indicators with quality messages **(col 6, lines 30-36, col 12, lines 19-37, col 12, lines, 46-54, Figs 2A/B)** but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani in the invention of "Slot Assignment Algorithm" disclosed a method for transmitting messages at different rates based on the determination

of a channel condition **(para 0042-0047, Figs 3-4, Table 2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages. Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** with quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6,lines 1-21).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 9, Chennakeshu et al disclosed wherein the first time window is dynamically adjusted based on operation of the system **(col 9, lines 61-67, col 10, lines 1-9).**

Regarding claim 10, Chennakeshu et al disclosed calculating an average channel condition **(col 8, lines 36-44)**; and calculating variance of the channel condition **(col 8, lines 45-67, col 9, lines 1-3).**

Regarding claim 15, Chennakeshu et al disclosed a wireless apparatus **(Fig 2/6)**, comprising: processing unit (**item 39 of Fig 2, item 52 of Fig 6)**, operative for executing computer-readable instructions (logic); and a memory storage unit **(item 50 of Fig 6)** adapted to store a plurality of computer-readable instructions for: estimating a channel condition over a first time window **(channel quality measured over a holding window, col 9, lines 18-29, Fig 4)**; comparing the estimated channel condition to a first threshold value **(col 9, lines 30-39)**; Chennakeshu et al disclosed transmitting differential indicators based on the comparison **(col 8, lines 14-67,1-17)** and transmitting differential indicators with quality messages **(col 6, lines 30-36, col 12, lines 19-37, lines, col 12, lines, 46-54, Figs 2A/B)** but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition **(para 0042-0047, Figs 3-4, Table 2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the

method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6,lines 1-21).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 16, Chennakeshu et al disclosed that the wireless communication system supporting a plurality of carriers **(plurality of Figs 2-4, col 11, lines 14-31)**, a method comprising: determining an average channel condition among the plurality of carriers **(channel quality measured over a holding window, col 8, lines 36-67, Fig 4)**; comparing the average channel condition to a first threshold value **(col 9, lines 1-29)**; Chennakeshu et al disclosed transmitting differential indicators based on the comparison **(col 8, lines 14-67,1-17)** and transmitting differential indicators with quality messages **(col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B)** but fails to disclose determining a transmission rate for transmission of quality messages and transmitting quality messages at the transmission rate, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition **(para 0042-0047, Figs 3-4, Table 2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose

wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6,lines 1-21).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claim 17, Chennakeshu et al disclosed assigning a weight to each of the plurality of carriers, wherein the average channel condition is a weighted average **(col 11, lines 32-56)**.

Regarding claims 20, Chennakeshu et al disclosed a wireless apparatus **(Figs 2/6),** comprising: a quality measurement unit configured to estimate a channel condition **(highest quality indicator)** over a first time window **(col 5, lines 1-15)**; a differential analyzer **(item 48 of Fig 2, signal tracker)** configured to compare the estimated channel condition to a first threshold value **(stages, col 9,**

lines 18-61, Fig 4);. Chennakeshu et al disclosed controller **(Figs 2A/B)** configured to transmit differential indicators based on the comparison **(col 8, lines 14-67,1-17)** and transmitting differential indicators with quality messages **(col 6, lines 30-36, col 12, lines 19-37, col 12, lines, 46-54, Figs 2A/B)** but fails to disclose that the that the controller configured to determine a transmission rate for transmission quality messages and the differential analyzer further configured to generate quality messages at the transmission rate, the differential analyzer further configured to transmit differential indicators independently of quality messages, However, Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition **(para 0042-0047, Figs 3-4, Table 2).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Shibutani in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages and differential indicators based on the comparison and transmitting quality messages at the transmission rate and transmitting differential indicators with quality messages.

Shibutani disclosed determining a transmission rate for transmission of quality message, but both Chennakeshu and Shibutani fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is**

set based on difference signal, Figs 1-2) independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6,lines 1-21).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Shibutani to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Regarding claims 21, 23, Chennakeshu et al means for dynamically adjusting the first window based on operation of the system **(col 9, lines 18-27).**

6. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jia et al [US Pub: 2003/0072395] and Chennakeshu et al [US Pat: 5,905,742] further in view of Ling [US Pat: 5,216,692].

Regarding claim 18, Jia et al in the invention of "Method and Apparatus for Channel Quality Measurements" disclosed a wireless communication system comprising processing unit **(Fig 2),** operative for executing computer-readable instructions; and a memory storage unit adapted to store plurality of computer-readable instructions for **(para 0034-0037)**: determining a best channel condition

associated with a first frequency and generating a quality message **(CQI, para 0057-0059)** and a frequency indicator, the frequency indicator identifying the first frequency **(para 0075-0077)** but fails to disclose the limitation of generating differential indicators separately from the quality message. However Chennakeshu et al disclosed the limitation of generating and transmitting differential indicators separately from the quality message **(col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting messages at different rates based on the determination of a channel condition as taught by Chennakeshu et al in the system of Jia et al to generating and transmitting differential indicators independently of quality messages. Jia et al disclosed transmitting channel quality indicators in the quality message, but both Jia and Chennakeshu fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** independent of quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6,lines 1-21).** Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Jia et al as modified by Chennakeshu et al to include the method of

transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a differential channel quality indicators of the measured channel using an adaptive data rate transmitting scheme.

Allowable Subject Matter

7. Claims 14, 19, 22, 24,30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's argument, see remarks, filed on 05/15/2009, with respect to rejection of claims 1-27 have been fully considered but is not persuasive.

With respect applicant's argument for claims 8,11-13,15,28 that DeMartin and Ling references fail to teach "receive circuitry operative to receive signals on a reverse link, including a quality message with a parity check, and differential indicators, the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages, however the examiner respectfully disagrees as DeMartin disclosed receive circuitry

operative to receive signals on a reverse link, including a quality message with a parity check, and differential indicators (col 5, lines 64-67,col 6, lines 1-44) and transmitting or receiving quality messages and/or differential indicators however the examiner respectfully disagrees as DeMartin disclosed a method for transmitting quality messages and differential indicators in col 5, lines 64-67, col 6, lines 1-43.

Ling disclosed a method for receiving the quality message periodically providing a quality metric of a forward link, wherein the differential indicators (indicator is set based on difference signal) track the quality metric between successive quality messages received at the receiver (Receiver circuitry, item 100 of Fig 1) and further disclosed a method for transmitting the differential indicators (indicator is set based on difference signal, Figs 1-2) independent of quality messages (power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6, lines 1- 21, col 7, lines 26-56, Figs 1-2).

With respect to applicant's argument for claims 16,18,20 and 21 that references fail to teach a controller configured to determine a transmission rate for transmission quality messages and differential indicators based on the comparison, the differential analyzer further configured to generate quality messages at the transmission rate, however the examiner respectfully disagrees as Chennakeshu positively discloses controller (Figs 2A/B) configured to transmit differential indicators based on the comparison (col 8, lines 14-67,1-17) and transmitting differential indicators with quality messages (col 6, lines 30-36, col 12, lines 19-37, col 12, lines, 46-54, Figs 2A/B).

Jia et al also disclosed transmitting quality indicators in para 0058-0059 and Shibutani disclosed a method for transmitting messages at different rates based on the determination of a channel condition in para 0042-0047, Figs 3-4, Table 2.

Therefore obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case DeMartin, Ling, Chennakeshu, Jia and Shibutani disclosed their invention in the related art of applicant's invention for estimating uplink and downlink quality metrics for determining the channel condition and transmitting quality messages and quality indicators.

Conclusion

9. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached @ (571)-272-3795. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2419

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2419